

**UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA**

**In Re: National Hockey League
Players' Concussion Injury
Litigation**

MDL No. 14-2551 (SRN)

**MEMORANDUM OPINION
AND ORDER**

This Document Relates to All Actions

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SUSAN RICHARD NELSON, United States District Court Judge

This matter is before the Court on Defendant's Motion to Compel the Production of Documents from the Boston University CTE Center [Doc. No. 666] and Plaintiffs' Motion to Strike Defendant's Exhibits A & D Filed in Support of its Motion to Compel Production of Documents from the Boston University CTE Center [Doc. No. 696]. For the reasons set forth herein, Defendant's motion is granted in part and denied in part. Plaintiffs' motion is denied.

I. BACKGROUND

Plaintiffs are former National Hockey League ("NHL") players who contend that they suffer from, or will suffer from, neurological damage caused by concussive and sub-concussive impacts sustained during their professional careers. (Pls.' Second Am. Consolidated Class Action Compl. ¶ 1 [Doc. No. 615].) They allege that the NHL knew or should have known of a growing body of scientific evidence showing that persons who experience repetitive concussive and subconcussive events, or other brain injuries, are at a greater risk for neurodegenerative illness, disease, and disabilities. (Id. ¶ 5.) Plaintiffs contend that the NHL failed to tell them about the dangers of repeated brain trauma. (Id. ¶ 6.) One neurodegenerative disease identified by Plaintiffs is chronic traumatic encephalopathy ("CTE"). (Id. ¶ 38.)

A. Boston University's CTE Center

In their Second Amended Class Action Complaint ("SAC"), Plaintiffs refer to the research of the Boston University ("BU") Center for the Study of Traumatic

Encephalopathy (hereinafter, “BU CTE Center”). (Id. ¶ 211.) BU is not a party in this litigation. The BU CTE Center maintains a brain bank of approximately 400 donated human brains and spinal cord tissue, studied by researchers to understand the impact of trauma on the human nervous system. (McKee Aff. ¶¶ 5, 19 [Doc. No. 682].) The BU CTE Center brain bank was created in 2008 in collaboration with the Edith Nourse Rogers Memorial Veterans Hospital in Bedford, Massachusetts (“VA Hospital”). (Id. ¶ 5.) The research findings of the BU CTE Center are published in a variety of peer-reviewed publications.¹ (Id. ¶6.)

In their pleadings, Plaintiffs refer to the BU CTE Center’s research findings which suggest a significant risk of developing CTE ““for persons who suffer repetitive mild traumatic brain injury.”” (SAC ¶ 211) (citing Brandon E. Gavett, Ph. D. et al., Chronic Traumatic Encephalopathy: A Potential Late Effect of Sport-Related Concussive and Subconcussive Head Trauma, CLINICAL SPORTS MED., 1, 2 (Jan. 1, 2012).) In the SAC, Plaintiffs also specifically cite the work of a BU professor and principal investigator

¹ Other medical research groups have relied on the BU CTE Center’s work. For instance, in March 2013, the National Institutes of Health (“NIH”) convened two consensus meetings of expert neuropathologists to define, collectively, the neuropathological criteria for the diagnosis of CTE. (McKee Aff. ¶ 9.) Using images from the CTE Center’s cases, the group found that the pathology of CTE is unique and distinguishable from other tauopathies. (Id.) The NIH consensus panel also concluded that CTE has only been found in persons exposed to brain trauma, typically in multiple episodes. (Id.) The NIH panel’s findings validated the preliminary diagnostic criteria reported by BU’s researchers and confirmed the criteria used by the BU CTE Center when diagnosing CTE in donor brain tissue. (Id.) A second NIH panel, which convened in 2015 and 2016, further evaluated 29 cases of CTE from the BU CTE Center and confirmed the findings of the original NIH panel. (Id. ¶ 11.)

on several CTE research projects, Dr. Ann McKee. (Id. ¶ 382.) Plaintiffs allege that Dr. McKee has found “overwhelming evidence that [CTE] is the result of repeated sublethal brain trauma.” (Id.) Further, the SAC quotes Dr. McKee for the proposition that decreasing the number of concussions would be the “the easiest way to decrease the incidence of CTE [in contact sport athletes].” (Id.)

In addition to references in the SAC to the research performed at BU, Plaintiffs’ concussion expert, Dr. Robert Cantu, co-founded BU’s CTE Center. (Cantu Decl. ¶ 8 [Doc. No. 646].) He currently works or holds appointments in the following capacities: (1) Chief of Neurosurgery Service at Emerson Hospital in Boston, Massachusetts; (2) Adjunct Professor of Exercise and Sports Science at the University of North Carolina, Chapel Hill; (3) Senior Advisor to the Brain Injury Center at Children’s Hospital in Boston; and (4) Clinical Professor of Neurology and Neurosurgery at BU. (Id. ¶¶ 7-8.) As an appointed clinician at BU, Dr. Cantu does not receive a salary, (McKee Supp’l Aff. ¶ 22 [Doc. No. 717]), does not speak on behalf of the BU CTE Center, nor does he have access to data from the Center’s laboratory for purposes of this litigation. (Second Supp’l McKee Aff. ¶ 3 [Doc. No. 728].) Dr. Cantu does not personally consult at BU or the VA Hospital, but instead offers clinical observations on conference calls and web discussions from Emerson Hospital. (Id. ¶ 6.) In Dr. Cantu’s role as a study co-author, Dr. McKee attests that “he does not provide, analyze or interpret any of the neuropathology data.” (Id.) Nor does he access the BU CTE Center’s original laboratory slides, photographs, or other data generated in the Center’s laboratories. (McKee Supp’l Aff. ¶ 21.)

B. NHL's Subpoenas

In September 2015, the NHL served its first subpoena duces tecum on non-party the BU CTE Center, seeking, among other things, “All documents related to sub-concussive head injuries, concussions, brain injuries, post-concussion syndrome, second-impact syndrome or long-term neurological problems, including CTE, for hockey players generally or NHL players specifically.” (See Sept. 2015 Subpoena, Ex. B to Connolly Decl. [Doc. No. 670-2].) While BU lodged several objections, it nevertheless produced documents related to individual research subjects whose families had provided medical release authorizations. (See BU's Opp'n Mem. at 4 [Doc. No. 680].) The BU CTE Center has conducted five autopsies on NHL players. (See Def.'s Mem. Supp. Mot. to Compel at 8 n.5 [Doc. No. 669].) The families of four of the players authorized the release of neuropathology reports, medical records, and clinical interviews, which BU provided to the NHL. (BU's Opp'n Mem. at 5; McKee Supp'l Aff. ¶ 3.)

On October 11, 2016, the NHL served on the Center a second subpoena duces tecum—the subpoena on which the instant motion to compel is based. (Oct. 2016 Subpoena, Ex. A to Connolly Decl. [Doc. No. 670-1].) Defense counsel indicated that the addition of Plaintiff Lawrence Zeidel to this litigation prompted the need for the requested information, because the BU CTE Center had examined Zeidel's brain. (Ex. 5 to Elswit Decl. [Doc. No. 681].) BU objects to the production of information with respect to Requests 2, 3, 6, 7, 8, 11, 14, 15, 18, and 19. (Def.'s Mem. at 9.) These requests seek the following information:

- **Request 2:** Documents sufficient to show what persons were examined by the BU CTE Center and were not diagnosed with CTE;
- **Request 3:** Documents sufficient to identify all athletes, other than Zeidel, who have donated or who have agreed to donate their brains to You or whose brains have been examined by You, including: (i) the date each athlete agreed to donate his/her brain; (ii) the date(s) on which the brain was examined; (iii) Your finding with regard to CTE pathology; and (iv) the stage of CTE found, if any;
- **Request 6:** Pathology photographs, including those obtained from autopsy materials, of brains and/or other organs of Zeidel, other hockey players, including NHL Players, and other athletes, examined by You in connection with research related to CTE;
- **Request 7:** Slides, or copies of slides, related to Zeidel, other hockey players, including NHL Players, and other athletes, examined by You in connection with research related to CTE;
- **Request 8:** Documents and Communications related to any finding or assertion by You that [] CTE patholog[y] was caused by concussions and/or subconcussive blows sustained while playing [hockey or contact sports];
- **Request 11:** Documents and Communications related to any finding or assertion by You that [] CTE patholog[y] caused any clinical symptoms purportedly experienced by [athletes];
- **Request 14:** Death certificates and autopsy reports, including any general autopsy or neuropathology reports of Zeidel, other hockey players, including NHL Players, and other athletes examined by You in connection with research related to CTE;
- **Request 15:** Medical records of Zeidel, other hockey players, including NHL Players, and other athletes examined by You and/or other affiliated entities, such as [the Concussion Legacy Foundation], including: (i) clinical records; (ii) medical histories or summaries; and (iii) interviews conducted with family members or acquaintances;
- **Request 18:** Documents related to publications related to CTE or other long-term neurodegenerative diseases that You prepared for peer-reviewed journals: (i) abstracts; (ii) presentations; (iii) draft publications; and/or (iv)

Communications between or among employees, representatives, and/or consultants of the BU CTE Center and/or other affiliated entities, including [the Concussion Legacy Foundation], about those Documents, including Communications related to the scope, limitations, conclusions, and/or phraseology used in such publications or potential publications;

- **Request 19**: Documents related to publications related to CTE or other long-term neurodegenerative diseases You prepared for peer-reviewed journals constituting (i) reviewer comments or questions and (ii) responses to reviewer comments or questions, including Communications related to the scope, limitations, conclusions, and/or phraseology used in such publications.

(Oct. 2016 Subpoena, Ex. A to Connolly Decl.)

BU contends that the NHL fails to meet the requirements of Fed. R. Civ. P.

45(d)(1), which requires the party issuing the subpoena to take reasonable steps to avoid imposing an undue burden on the subpoenaed entity, particularly where that entity is not a party. (BU's Opp'n Mem. at 8-9.) It considers the NHL's requests to be "a step-by-step accounting of the nature of every researcher's scientific inquiry into the study of [CTE], complete with examples of findings involving individuals (or their families) who were given every expectation of privacy." (Id. at 6-7.)

Regarding the burden posed by the NHL's subpoena, Dr. McKee explains that the BU CTE Center's brain bank protocol calls for the production of approximately 172,000 photographs of each of the 400 donated brains and spinal cords. (McKee Aff. ¶ 19.) Each of the individual photographs contains a marker linking the photograph to the autopsy number to which the photograph corresponds. (Id.) Dr. McKee estimates that in order to eliminate or de-identify the autopsy number from each of these images, it would take

approximately 10 minutes per photograph, amounting to approximately 28,600 hours, or 13 years worth of time. (Id.) In addition, the brain bank protocol also requires the production of approximately 120,000 photomicrographs of stained slides of the brain and spinal cord of donors, which also contain identifiers. (Id.) Dr. McKee estimates that the process of simply locating the nearly 400,000 photographs and digital photographs, gathering them into secure boxes or copying them onto CDs would take approximately four hours per brain donor. (Id.) The BU CTE Center also has approximately 264,000 glass microscopy slides and 40,000 large landscape glass slides containing sections from the donated brains. (Id. ¶ 20.) Dr. McKee estimates that locating and packaging these slides would take a minimum of 400 hours. (Id.)

Moreover, the result of any de-identification or redaction, Dr. McKee posits, would be slides, photographs, and reports with little information, if any, connecting the neuropathological findings to individual biographical information. (Id. ¶ 23.) Given the breadth of the NHL's requests, which are not limited to research concerning the brains and tissue samples of NHL hockey players, Dr. McKee asserts, it would be impossible to discern whether the data related to professional hockey players, professional football players, or "with an individual that never played a sport in his/her life." (Id.)

Dr. McKee's BU research colleague, Dr. Robert Stern, further contends that given the broad scope of Defendant's requests, full compliance with the subpoena would "harm ALL ongoing CTE-related research, both at BU and at institutions that collaborate with BU and/or rely on BU findings as part of follow-on work." (Stern Aff. ¶ 1 [Doc. No.

683]) (emphasis in original). Dr. Nigel J. Cairns, Professor of Neurology, and Pathology and Immunology at Washington University School of Medicine in St. Louis, Missouri,² echoes the statements of Dr. Stern regarding the excessive breadth of the NHL’s subpoena. (Cairns Aff. [Doc. No. 684].) He states that if such a request were applied to his laboratory, it “would result in an effective moratorium on all ongoing diagnostic and research work as staff would be diverted to deidentifying [the requested data].” (Id. ¶ 6.) Dr. Cairns concludes that the NHL’s request for slides, images of gross pathology and clinical data from all cases “is likely to curtail the ongoing work of the BU CTE Center and, by relationship, the work of other laboratories that collaborate with the BU CTE Center.” (Id.)

In addition to the logistical burden of producing the requested material, Dr. McKee asserts that compelling this production would chill the BU CTE Center’s efforts to attract future donors. Dr. McKee oversees the recruitment of donations from living donors and family members of deceased donors. (McKee Aff. ¶ 14.) She asserts that anonymity is an important factor in obtaining authorization from donors and next of kin, who often request the non-disclosure of any personally identifiable medical information. (Id.) The BU CTE Center’s consent forms provide for confidentiality and prohibit the sharing of identifiable information with third parties. (Id.) Dr. Ronald C. Petersen, Professor of Neurology at

² Dr. Cairns also serves as the Neuropathology Core Leader of the NIA-funded, multi-site Alzheimer’s Disease Neuroimaging Initiative and the international Dominantly Inherited Alzheimer Network. (Cairns Aff. ¶ 1.)

the Mayo Clinic,³ joins in Dr. McKee’s concerns. (Petersen Aff. ¶ 5 [Doc. No. 685].) He states that donors’ decisions to participate in research with the aim of helping others make that decision with “a promise of confidentiality and an aim of innovation.” (Id.) “These decisions do not contemplate the potential of third party litigation upending the goals they seek to achieve” (Id.)

As to the portion of the subpoena seeking all CTE-related pre-publication discussions, including with peer reviewers, Dr. McKee expresses similar concerns about the chilling effect that such disclosure would produce. (McKee Aff. ¶ 25.) Because scientific journals involve “robust” peer review, Dr. McKee contends that requiring the production of peer reviewer comments on pre-publication manuscripts “could also undercut the integrity of the research enterprise.” (Id. ¶ 27.) Furthermore, she asserts that such a chilling effect “could discourage new talent from entering the field or experts from asking questions and providing unvarnished scientific answers.” (Id. ¶ 26.)

In short, BU contends that the NHL has not demonstrated a strong need for the requested material when balanced against the CTE Center’s interest in withholding the requested documents in light of its burden and confidentiality concerns. (BU’s Opp’n Mem. at 11-38.)

³ Dr. Petersen is also the Cora Kanow Professor of Alzheimer’s Disease Research, a Mayo Clinic Distinguished Investigator, and Director of the Mayo Alzheimer’s Disease Research Center and the Mayo Clinic Study on Aging. (Petersen Aff. ¶ 1.)

The NHL, however, contends that it is entitled to the requested information. It argues that through press releases, pathology photos on BU's website, and the identification of patients in public presentations on CTE, "doctors at the BU CTE Center have interjected themselves into discussions relevant to this litigation." (Def.'s Mem. at 7.) The League contends that the requested materials are "indisputably relevant" to Plaintiffs' claims and the NHL's defense. (Id. at 13.) In particular, it argues that the requests relate to issues of general causation and "understanding what could have been scientifically known about head injuries and CTE at different points in time." (Id.) Moreover, the NHL contends that (1) no privilege applies to the requested materials; (2) redactions and/or a protective order can adequately protect any sensitive or confidential material; and (3) the NHL is willing to pay costs arising from BU's compliance with the subpoena. (Id.)

In support of its motion, the NHL submits the Declaration of Dr. Rudy Castellani, a clinical neuropathologist at Western Michigan University. As part of his work, Dr. Castellani provides neuropathological diagnoses at autopsies for several hundred cases a year. (Castellani Decl. ¶ 2 [Doc. No. 671].) Dr. Castellani opines that as part of the neuropathological evaluation of any brain, numerous slides are created, which may be digitized for virtual microscopy. (Id. ¶ 10.) By using copies of the images and slides, he contends, "a neuropathologist can independently assess the gross and microscopic findings, along with the clinical history, and provide an independent neuropathological diagnosis and interpretation according to scientific principles and the evidence base." (Id.)

As an example, Dr. Castellani describes his examination of the clinical data on which Dr. Bennet Omalu relied in a 2005 paper.⁴ (*Id.* ¶ 11) (citing Omalu, Bennet I., et al., *Chronic Traumatic Encephalopathy in a National Football League Player*, 57 NEUROSURGERY, 128-34 (2005)). From his “cursory review,” Dr. Castellani states that he was able to determine that no evidence supported Dr. Omalu’s findings that the decedent had a progressive neurodegenerative condition. (*Id.*) Similarly, here, Dr. Castellani postulates, if he has access to copies of the BU CTE Center’s gross pathology photographs, all brain slides, and clinical data, he can “verify the accuracy of the reports, evaluate for other pathological processes that may be significant, and conduct a full, independent neuropathological analysis of the cases reported by researchers at the BU CTE Center.” (*Id.* ¶ 13.)

In response, Dr. McKee rejects Dr. Castellani’s approach as “not the way science works or should work.” (McKee Aff. ¶ 28.) She explains that in order for her research manuscripts to be published, she is required to submit representative, underlying images to the journals, given the enormous volume of data that she and her colleagues generate.

⁴ Dr. Omalu, a practicing forensic pathologist-neuropathologist, is the Chief Medical Examiner of San Joaquin County, California, the President of Bennet Omalu Pathology, and a Clinical Professor at the Department of Medical Pathology and Laboratory Medicine, University of California, Davis. (Omalu Letter at 1, Ex. 1 to Zimmerman Decl. [Doc. No. 689-1].) Over an 18-year period, Dr. Omalu states that he has been involved in over 7,000 death and injury investigations, personally conducted over 6,000 autopsies and death investigations, and examined over 5,000 brain tissue specimens. (*Id.* at 2.) With his particular interest in brain injuries and brain trauma, Dr. Omalu indicates that he identified CTE in a retired football player when he performed an autopsy and examined the brain of the player. (*Id.*) He subsequently identified CTE in other high-impact, high-contact sports athletes and in military veterans with PTSD. (*Id.*)

(Id.) Peer reviewers rely on the photomicrographs and photographs of the tissue slides, tables, graphs, and submitted text “to evaluate the quality, integrity, and importance of the research when deciding whether to recommend publication.” (McKee Supp’l Aff. ¶¶ 10-11.)⁵ To provide some context for the number of images that might be submitted for peer review for a given manuscript, Dr. McKee states that for a 2009 paper, “Chronic Traumatic Encephalopathy in Athletes: Progressive Tauopathy Following Repetitive Head Injury,” published in the *Journal of Neuropathology and Experimental Neurology*, 35 images containing neuropathological data for three subjects were submitted; in 2010, the same journal published a paper containing 38 images of neuropathological data for 12 subjects of which the data for three subjects were highlighted. (Id. ¶ 14.) For a 2013 article, “The Spectrum of Disease in Chronic Traumatic Encephalopathy,” published in the journal *Brain*, 35 photographs representing 85 subjects were submitted to reviewers. (Id.) For a 2012 paper in *Science Translational Medicine*, 58 photographs were submitted, representing the data for six subjects and hundreds of mice. (Id.) For the 2015 and 2016 NIH studies referenced in footnote 1 of this Order, the NIH panels considered 40 BU CTE Center cases, reviewing more than 1500 images of slides and tissue samples. (Id. ¶ 15.)

⁵ In response to the Court’s request, (see Feb. 17, 2017 Hr’g Tr. at 54 [Doc. No. 712]), Dr. McKee provided information in her Supplemental Affidavit concerning the slides and data provided to peer reviewers. (McKee Supp’l Aff. ¶¶ 10-16.) The Court asked BU to provide information concerning “the extent to which those who peer reviewed your literature explored slides and data.” (Feb. 17, 2017 Hr’g Tr. at 54.) While the NHL argues that Dr. McKee’s Supplemental Affidavit fails to confirm “that the brain tissue slides the NHL seeks were made available to or examined by peer reviewers of the BU CTE Center’s articles,” (Def.’s Supp’l Mem. at 10), Dr. McKee has sufficiently responded to the Court’s inquiry.

The digitized images of approximately 700 of the slides used by the 2015 consensus panel are available online, as noted in Dr. McKee’s Supplemental Affidavit. (Id.) Further, Dr. McKee attests that if she were to provide the thousands of underlying slides and images to every researcher who does not believe in her scientific conclusions or believes that they could do the work better, she would have no ability to perform research. (McKee Aff. ¶ 28.) As part of the rigorous peer review process, Dr. McKee states that she responds to any questions from peer reviewers, providing supplemental data and materials to verify every conclusion reached in her research manuscripts.⁶ (Id.)

Dr. McKee’s BU colleague, Dr. Stern, concurs that the NHL’s subpoena ignores the standard scientific protocol for evaluating research results. (Stern Aff. ¶ 18.) He describes the scientific method as a “straightforward” process, requiring a researcher to first generate a hypothesis, conduct an experiment to accept or reject the null hypothesis, and then, if the null hypothesis is rejected (i.e., the hypothesis is confirmed, meaning that the experiment worked), the results are peer reviewed and, if deemed acceptable, published with sufficient detail for others to attempt to replicate the study, and thus advance the cycle of scientific progress.⁷ (Id.) What the scientific method does not include, Dr. Stern

⁶ In contrast to “Original Research” articles, Dr. McKee notes that the process of evaluating articles that review the research of others, referred to as “Reviews,” is far less demanding. (McKee Supp’l Aff. ¶ 16.) She notes that of the articles on the NHL’s list entitled “Peer Reviewed Articles Expressing Uncertainty About a Causal Link Between Head Impacts and CTE,” (Ex. D to Connolly Aff.), all but one are the less-scrutinized “Reviews.” (Id.)

⁷ See also Omalu Letter at 3-5) (describing generally accepted standards of the scientific publication process); Petersen Aff. ¶ 3 (same).

asserts, is “a step wherein all raw data, records, formal and informal communications and other information is provided to a group that does not agree with the findings or its interpretation.” (Id.) Moreover, Dr. Stern questions the premise that the NHL could utilize the requested materials to conduct a secondary analysis to serve its litigation goals. (Id. ¶ 19.) Rather, he contends that “[e]xamining variations between boxing, football and other sports and hockey would be a new study and one inappropriate for the data being compelled.” (Id.) Moreover, Dr. Stern notes that any such study would require adherence to sound scientific protocols. (Id.)

Despite Dr. McKee’s overall objections to the NHL’s subpoena, she does not object to providing the information requested by Dr. Castellani in paragraph 13 of his Declaration, limited to the late Lawrence Zeidel, whose estate representative is a Named Plaintiff in this action. (McKee Aff. ¶ 29.) In paragraph 13, Dr. Castellani refers to copies of gross pathology photographs, all brain slides and clinical data. (Castellani Decl. ¶ 13.)

Plaintiffs join in BU’s opposition to the NHL’s motion, arguing that it seeks “to distort and expand this litigation into a full blown attack on the truth and the science of the existence of [CTE].” (Pls.’ Opp’n Mem. at 1 [Doc. No. 688].) They contend that through the NHL’s motion, the NHL and Dr. Castellani are attempting to discredit the work of Dr. Omalu and others, including the BU CTE Center, to “resurrect the long-discredited notion that there is no proof that suffering repetitive brain trauma causes long-term neurological damage.” (Id.) In a letter from Dr. Omalu submitted in support of Plaintiffs’ memorandum, he states that in spite of a long history of well-established science and

common knowledge linking high-impact, high-contact sports with damage to the human brain, the NHL appears to be following the play book of the New York State Boxing Commission and the National Football League (“NFL”), organizations which, in years past, attempted to discredit the science concerning CTE and traumatic encephalopathy syndromes in their respective sports. (Omalu Letter at 3-4.)

Dr. Omalu further notes that the 2005 Mike Webster paper, criticized in the Castellani Declaration, was, at the time, subject to the same critique by the paid experts of the NFL. (*Id.* at 6.) But Omalu contends that unlike Dr. Castellani, the NFL’s experts followed standard protocol for research publications and wrote to the editor of *Neurosurgery*, the journal in which the article appeared, with their critique. (*Id.*) The editors reviewed the letter and Dr. Omalu’s response, evaluated the issues raised, and rejected the criticism of the study. (*Id.*) Dr. Omalu further finds the scientific basis of the Castellani Declaration to be “critically flawed” and “extremely and excessively outside the generally accepted principles and standards of practice of science and medicine,” (*id.* at 7), as also noted by Drs. Stern and McKee.

II. DISCUSSION

A. Defendant’s Motion to Compel

Federal Rule of Civil Procedure 26(b)(1) permits discovery of “any nonprivileged matter that is relevant to any party’s claim or defense and proportional to the needs of the case,” considering, among other things, “the importance of the discovery in resolving the issues and whether the burden or expense of the proposed discovery outweighs its likely

benefit.” Pursuant to Rule 45, a party issuing a subpoena must “take reasonable steps to avoid imposing undue burden or expense on a person subject to the subpoena.” Fed. R. Civ. P. 45(d)(1). A subpoena that subjects a person to undue burden may be quashed or modified. Fed. R. Civ. P. 45(c)(3)(A)(iv). Even relevant discovery “is not permitted where no need is shown or compliance would be unduly burdensome, or where harm to the person from whom discovery is sought outweighs the need of the person seeking the information.” Misc. Docket Matter No. 1 v. Misc. Docket Matter No. 2, 197 F.3d 922, 927 (8th Cir. 1999). In evaluating whether the burden of production outweighs the likely benefit of discovery, “concern for the unwanted burden thrust upon non-parties is a factor entitled to special weight in evaluating the balance of competing needs.” Id. (quoting Micro Motion, Inc. v. Kane Steel Co., 894 F.2d 1318, 1323 (Fed. Cir. 1990)).

The Court first examines Defendant’s need for the subpoenaed information. The NHL considers the information “indisputably relevant both to Plaintiffs’ claims and the NHL’s defense.” (Def.’s Mem. at 13.) Again, it argues that it needs to probe the basis of Plaintiffs’ allegations, which rely on the BU CTE Center’s research, by examining the underlying data. (Id. at 18.) Further, Defendant seeks to “scrutinize the methodology and conclusions of the BU CTE Center’s research,” in order to understand how the Center’s findings have evolved over time and to determine whether autopsies performed at the BU CTE Center show alternative diagnoses, confounding diseases, or omit consideration of other possible causes of the pathological findings. (Id. at 19.) Also, the NHL asserts that it should be permitted “to assess the posthumous family interviews to determine whether

these histories reveal any methodologic bias, are accurate, and/or present individualized questions related to causation.” (Id.)

The Court disagrees with the NHL’s asserted need for the information. As the NHL notes, the Court previously permitted discovery from the NHL’s databases and from the Clubs, (see In re NHL Players’ Concussion Injury Litig., 120 F. Supp. 3d 942 (D. Minn. 2015)), as well as workers’ compensation-related discovery from non-party Chubb Corporation (“Chubb”). (See Order of July 13, 2016 [Doc. No. 556].) That discovery was directly relevant to the question of what the NHL knew about concussions and when it knew it. In addition, the discovery pertained to the putative class. And, the information sought by Plaintiffs in the previously-ordered discovery did not appear in peer-reviewed literature. BU’s underlying raw data is not similarly relevant. The NHL could not have known about possible causal links between head injuries and CTE based on information in unpublished research.

Defendant argues that it requires the underlying data and information in order to determine precisely when any causal relationship between head trauma and CTE developed. But to the extent that the NHL finds Dr. Cantu’s opinion inconsistent with that of Dr. McKee or others, the League is free to draw comparisons and attempt to impeach Dr. Cantu on that basis. Similarly, in Rosa v. City of Seaside, No. 05-3577 JF (HRI), 2009 WL 2382760, at *1 (N.D. Cal. July 29, 2009), the defendant, stun-gun manufacturer TASER, subpoenaed the non-party authors of a study on which the plaintiffs relied, arguing that the requested information was necessary for it to refute “or even address” the

study's unfavorable conclusions. The court disagreed, finding that TASER failed to demonstrate a substantial need for the requested information:

[S]urely TASER has its own experts who can attest to the physiological effects of the use of TASER's weapon. TASER may therefore use its experts and data from plaintiffs' thirty-one other sources (and sources that TASER cites to itself) to refute any negative research, even without the information it seeks in this motion. Additionally, the Study itself outlines in detail the research methodology and manner in which the authors reached their conclusions. If the Study's methodology is lacking, as TASER alleges, it will only help TASER discredit the Study's unfavorable conclusions. The reliance of the opposing party on a study does not entitle the moving party to a fishing expedition in order to attack a report that it dislikes.

Id. at *2. Similarly, when applying the balancing test of need versus burden, the court in Cusumano v. Microsoft Corp., 162 F.3d 708, 712, 716-17 (1st Cir. 1998), affirmed the trial court's decision to deny the production of investigative materials produced in the course of pre-publication academic research, particularly where they were sought from a third party "for purposes akin to impeachment."

Moreover, here, the NHL has identified authors who express uncertainty about a causal link between head impacts and CTE, (see Ex. D to Connolly Decl. [Doc. No. 693-4]), all of whom lacked access to BU's underlying research, but were nevertheless able to formulate their opinions. Likewise, while Dr. Castellani argues for access to raw data, he lacked such underlying data with respect to Dr. Omalu's research. (Castellani Aff. ¶¶ 11-12.) Yet, he was still able to formulate his critique based on the "clinical data provided in the narrative, and the limited set of pathological images included in the paper." (Id. ¶ 11.) Dr. Omalu is not affiliated with BU. Nor does Dr. Castellani's Affidavit identify any basis

upon which to fundamentally question the integrity of BU's methodology.

At the hearing on the instant motions, the Court asked counsel for the NHL to provide supplemental briefing that identified multi-district litigation ("MDL") cases, in which courts ordered the production of the underlying data of the peer-reviewed articles, leading to a successful Daubert challenge. (See Feb. 17, 2017 Hr'g Tr. at 64-65.) In its supplemental briefing, the NHL instead first cites several authorities for the proposition that courts have regularly excluded peer-reviewed articles based on errors found during discovery. (Def.'s Supp'l Mem. at 3-7 [Doc. No. 719]) (citing In re Viagra Prods. Liab. Litig., 658 F. Supp. 2d 936, 939-40 (D. Minn. 2009); Cedillo v. Sec'y of Health & Human Servs., No. 98-916V, 2009 WL 331968 (Fed. Cl. Feb. 12, 2009); Palazzolo v. Hoffman La Roche, Inc., 2010 WL 363834, at *5-8 (N.J. Sup. Ct. App. Div. Feb. 3, 2010); In re Silicone Gel Breast Implant Prod. Liab. Litig., (MDL 926), 1996 WL 34401766, at *1 (N.D. Ala. Oct. 31, 1996)). As Defendant notes, these are generally cases in which the authors of peer-reviewed studies were also retained as experts and, in some cases, produced underlying data without objection. (Id. at 3.) The NHL contends that Dr. Cantu's opinion is similarly based in large part on work done with the BU CTE Center, articles that he has co-authored with personnel from the Center, and testing that the Center has performed on former NHL hockey players. (Id. at 3 n.1.)

While the Court appreciates that there may instances in which a peer-reviewed study is not sufficiently reliable, the Court's focus here is on whether a third party may be compelled to produce underlying data in the context of multi-district litigation. While Dr.

Cantu is affiliated with the BU CTE Center, he does not have access to data from its laboratory that the League seeks here, (see Second Supp'l McKee Aff. ¶¶ 3, 21), and is quite unlike the experts at issue in the cases cited by Defendant, noted above, which do not involve the compelled production of raw data and are distinguishable for other reasons.⁸

⁸ In the Viagra litigation, this Court excluded the testimony of plaintiffs' expert, Dr. McGwin, who offered a causation opinion based on his own study. In re Viagra Prod. Liability Litig., 658 F. Supp. 2d at 939-40. When the defendants found errors in the published study, or "miscoding," additional discovery was permitted, including discovery regarding any reanalysis that Dr. McGwin had conducted of the data or statistics in his study, and additional deposition testimony Id. at 940. Defendant has identified no such errors here.

The expert in Cedillo, Dr. Andrew Wakefield, was the primary author of a peer-reviewed article published in the *Lancet*, in which he found that the measles-mumps-rubella vaccine was associated with autism. 2009 WL 331968, at *79, 109-11. Notably, the court there observed that Dr. Wakefield's causation theory not only failed to gain acceptance in the medical community, but had instead been widely criticized. Id. at *79. There is no comparison between Wakefield's discredited work and the work of the BU CTE Center, which has been widely cited and accepted. (McKee Supp'l Aff. ¶¶ 14-17.)

Palazzolo, a New Jersey state appellate court decision, involved a causation study commissioned for the litigation, funded by the plaintiffs, and conducted by their expert. 2010 WL 363834, at *5-8. The court remanded to the trial the question of whether the witness should be permitted to testify as a general causation expert, without reference to the study. Id. at *5.

In the silicone breast implant litigation, a court-appointed scientific research panel examined published research, not underlying data. In re Silicone Gel Breast Implant Prod. Liab. Litig., (MDL 926), 1996 WL 34401766, at *1; see also L.L. Hooper, et al., *Neutral Science Panels: Two Examples of Panels of Court-Appointed Experts in the Breast Implants Product Liability Litigation* (2001), at 16, <https://www.fjc.gov/sites/default/files/materials/2017/NeuSciPa.pdf> (discussing process used by the panel). As BU observes, the panel did not reject specific studies, but addressed whether the body of research sufficiently established causation between silicone breast implants and various diseases and symptoms. (Id.) Moreover, as BU also notes, like the Viagra litigation, the silicone breast implant litigation involved a specific product, as opposed to a body of data produced by an academic research institution.

The NHL identifies three cases as examples in which courts have allowed discovery of underlying peer-reviewed studies, even where the data was held by third parties: In re Prempro Prods. Liab. Litig., No. 4:03-CV-1507-WRW (E.D. Ark. July 13, 2009), Ex. C to Connolly Decl. [Doc. No. 720-3]; In re Phenylpropanolamine (PPA) Prods. Liab. Litig., MDL No. 1407 (W.D. Wash. Aug. 16, 2002), Ex. A to Connolly Decl. [Doc. No. 674-1]; and Kellington v. Bayer Healthcare Pharms., Inc., No. 5:14-c-2, 2016 WL 5349801, at *2 (W.D. Va. 2016). These rulings are highly fact-specific.

In the multi-district Prempro litigation involving hormone replacement therapy, the defendants subpoenaed and obtained underlying data from a non-party entity involved in a study on which the plaintiffs apparently relied. See In re: Prempro Prods. Liab. Litig., No. 4:03-CV-1507-WRW (E.D. Ark. Feb. 1, 2005) [ECF No. 509]; see also In re: Prempro Prods. Liab. Litig., Orders of Mar. 20, 2006 [ECF No. 1077] and July 13, 2009. Confidentiality concerns and remuneration for production costs are addressed in the brief rulings. Id. However, there is no discussion of the burden imposed on the third party as it relates to the volume of discovery and the impact of gathering and redacting data on the third party's ability to conduct its business.

In the multi-district PPA litigation, the court denied a party's motion to quash a subpoena served on several hospitals processing medical records for participants in a Yale College epidemiologic study. Order of Aug. 16, 2002 at 6. Plaintiffs apparently relied on the study in their lawsuit. The defendants stated that the discovery was necessary due to "a strong likelihood of, among other flaws, bias in the [study]." Id. at 4. The court found

that the discovery was relevant and that no undue burden would be imposed on the non-parties since the defendants offered to pay for redaction and copying costs and the study had been concluded for some time. Id. Moreover, the patients involved in the study had authorized the disclosure of their medical records, so long as any identifying information was redacted. Id.

In Kellington, 2016 WL 5349801, at *2, which does not appear to be a multi-district action, the request was for data underlying a single publication that was “the only article published in a peer-reviewed journal on this topic.” The BU CTE Center’s published research is not such a singular source of information, as demonstrated by Defendant’s own list of publications critical of the Center’s findings. Moreover, the third party in Kellington had previously been an expert witness for one party, had been deposed, and while the parties were attempting to schedule another day of his deposition, he withdrew from his expert role. Id. Again, while Plaintiffs’ expert Dr. Cantu is affiliated with the BU CTE Center, he does not conduct its research. Moreover, in Kellington, other than citing a potential chilling effect on scientific research, the party from whom discovery was sought did not present an argument regarding the undue burden of time and effort involved in complying with the discovery request.

The NHL relies heavily on Deitchman v. E.R. Squibb & Sons, Inc., 740 F.2d 556, 562-65 (7th Cir. 1984), a case that the Eighth Circuit has not cited as authority, although, as the League notes, this Court has cited, albeit in passing for general legal propositions. (See Def.’s Supp’l Mem. at 9) (citing Kramer v. Boeing Co., 126 F.R.D. 690, 695-96 (D.

Minn. 1989) (Symchych, Mag. J.) (noting the balancing of considerations required under Rule 26 and citing Deitchman for the proposition that, typically, confidential information is not immune to discovery for that reason alone); Simon v. G.D. Searle & Co., 119 F.R.D. 680, 682 (D. Minn. 1987) (Renner, J.) (citing Deitchman as authority for the application of a balancing test, requiring the court to weigh the relative hardships involved). In Deitchman, the court noted that the study for which the defendant drug manufacturer sought underlying data “may have a number of different, but inadvertent biases present.” 740 F.2d at 562. But even so, while the Seventh Circuit found that the defendant was entitled to some discovery of the data, it remanded the matter to the district court, directing it to apply a balancing test and to fashion “as inventive an order as the necessities of this unique case dictate, one which allows [the defendant] the least necessary amount of information to avoid a miscarriage of justice without doing needless harm to [the researcher or his database].” Id. at 566.

The NHL also cites In re NCAA Student-Athlete Name & Likeness Licensing Litig., No. 4:12-mc-508 JAR, 2012 WL 4856968, at *1 (E.D. Mo. Oct. 12, 2012), in which the court acknowledged that peer review is an important step in finalizing and lending credibility to a study, but, after applying the balancing test, required the production of underlying data from the third party researcher after the publication of the research in question. But unlike the requested information at issue in the instant case, the researcher in the NCAA suit did not claim that the requested information contained any confidential information. Id. at *2. Similarly, while the NHL relies on Wright v. Jeep Corp., 547 F.

Supp. 871, 874 (E.D. Mich. 1982), this case did not involve confidentiality concerns.

Wright concerned a manufacturer's appeal of an order quashing a subpoena served on a non-party expert, a vehicle crash researcher. Id. at 872-73. The defendant argued that the study was likely to be used by the plaintiff and the requested material, including underlying data, was necessary to assess the validity of the conclusions reached. Id. at 873. The court agreed, noting that "if the conclusions or end product of a research effort is to be fairly tested, the underlying data must be available to others equally skilled and perceptive." Id. at 874. In addition to a lack of confidentiality considerations, the matter settled before the researcher testified or produced the requested discovery. See In re Snyder, 115 F.R.D. 211, 213 (D. Ariz. 1987) (discussing history of litigation involving the same researcher). Moreover, Wright was decided prior to the 1991 amendments to the Federal Rules of Civil Procedure that added exceptions concerning subpoenas to non-parties. See Rosa, 2009 WL 2382760, at * 2 (distinguishing Wright on this basis).

Underscoring the fact-specific nature of the inquiry, other courts, as well as the Seventh Circuit, which decided Deitchman, have found, on the specific facts before them, precisely the opposite—that the burden imposed on the non-party litigants outweighed the movants' need for the information. See, e.g., Dow Chem. Co. v. Allen, 672 F.2d 1275, 1276 (7th Cir. 1982) (applying the balancing test and finding the university's research was constitutionally protected from disclosure); Buchanan v. Am. Motors Corp., 697 F.2d 151, 152 (6th Cir. 1983) (affirming the quashing of a subpoena on a non party, stating, "The District Court did not err in finding improper the practice of calling an eminent

expert witness (who is a stranger to the litigation) under a burdensome subpoena duces tecum that would require him to spend a large amount of time itemizing and explaining the raw data that led him to a research opinion adverse to the interest of a party which is the author of the subpoena.”); In re Snyder, 115 F.R.D. at 215 (observing that subpoenas served on non-party researchers call for a “fresh weighing” of burden, relevance, alternative sources of information, the needs of the case, and the importance of the issues in question, and stating, “[o]ppportunity enough exists for an adversarial exploration of truth in litigation without the necessity of conscripting non-witness researchers into discovery and trial appearances.”)

Turning then to consideration of the burden on BU that compliance with the subpoena would impose, given the extraordinary breadth of the NHL’s subpoena, the record demonstrates a significant, overwhelming burden. (See McKee Aff. ¶¶ 19-20, 23.) While confidentiality concerns could be addressed to some extent, even setting aside BU’s valid concerns regarding the potential chilling effect of complying with the subpoena, the sheer effort in physically locating and preparing the requested information is staggering. For instance, merely locating the nearly 400,000 photographs and digital photographs, gathering them into secure boxes or copying them onto CDs would take approximately four hours per brain donor. (Id.) The BU CTE Center also has approximately 264,000 glass microscopy slides and 40,000 large landscape glass slides containing sections from the donated brains. (Id. ¶ 20.) Dr. McKee estimates that locating and packaging these slides would take a minimum of 400 hours. (Id.)

While the NHL offers to absorb some of the reasonable costs of production, it also suggests that Dr. McKee overstates BU's burden, in that BU may currently possess some digitized images, obviating the need to digitize them anew. (Def.'s Supp'l Mem. at 11.) As Dr. McKee notes, however, creating digitized slides of all cases requires considerable time and effort, as the BU CTE Center does not routinely make digitized slides. (Second Supp'l McKee Aff. ¶ 7.) Reproducing the primary data regarding Mr. Zeidel, one of approximately 400 donors, took three weeks. (Id.) She further asserts that the Center lacks the capability to digitize its substantial collection of glass paraffin slides, which are not digitized. (Id. ¶ 8.)

In balancing need versus burden, the tremendous burden to non-party BU outweighs the NHL's need for the requested information. Accordingly, the Court denies Defendant's Motion to Compel in part as to most of the requested information. However, the Court finds a limited subset of requested information should be produced, and therefore grants the NHL's motion in part as to this information. As discussed at the hearing on the instant motion, to the extent that the requested data and slides pertain to Larry Zeidel, or any of the former NHL players for whom authorizations were provided, the information is relevant. At the hearing, counsel for BU indicated its willingness to provide the requested digitized slides for Mr. Zeidel and was directed to do so. Therefore, consistent with what BU has produced with respect to Mr. Zeidel, it must also produce corresponding material as to the other NHL players for whom authorizations were

provided.⁹ The Court understands the difficulties involved in this production and requests that the CTE Center advise the Court of the status of this production by filing a short letter update each month, beginning one month from the date of this Order.

In addition, to the extent that BU issued statements to the press, or researchers for the BU CTE Center gave public statements regarding their research involving NHL donors, such statements shall be produced. No confidentiality concerns attach to these public statements and they are relevant to the NHL's knowledge. Counsel for BU indicated at the hearing that searching for such information might take approximately 50 hours and that BU was agreeable to meeting and conferring with the NHL about the production of such material.

⁹ Counsel for BU has since informed the Court that through a series of conferences with counsel for the NHL, the BU CTE Center has agreed to produce the digitized copies of slides and photographs as the "primary data" regarding all former NHL hockey players whose brains the CTE Center has analyzed, subject to a confidentiality order and appropriate protections from disclosure. (BU's Letter of April 26, 2017 at 1 [Doc. No. 730].) While the CTE Center has analyzed the brains of five NHL players, it will soon complete the analysis of a sixth player, for whom it will also provide this data. (*Id.* n.1.) This information is responsive to Request Nos. 6 & 7 in the Subpoena, as to NHL hockey players. (*Id.*) BU further notes that large-sized, "landscape" glass slides cannot be digitized using the current technology available to the CTE Center and cannot be transferred without the risk of damage. (*Id.*) Accordingly, the CTE Center will provide scanned and photographic images of these large slides. (*Id.*) Finally, the CTE Center indicates that the reproduction process may take several months. (*Id.*) The Court appreciates the efforts of counsel to resolve this dispute and approves of this plan for production.

Finally, in light of the non-party status of BU, for these limited areas for which Defendant's motion is partly granted, the NHL will reimburse BU for its reasonable expenses incurred in producing the information.

B. Plaintiffs' Motion to Strike

Finally, Plaintiffs move to strike Defendant's Exhibits A and D filed in support of the NHL's Motion to Compel. Exhibit A is a list compiled by the NHL, entitled "References to the CTE Center's Research in Plaintiffs' Papers," and Exhibit D, discussed earlier, is another list compiled by the NHL, entitled, "Peer Reviewed Articles Expressing Uncertainty About a Causal Link Between Head Impacts and CTE." Plaintiffs contend that these exhibits contain additional argument, in violation of the page limits of Local Rule 7.1(f). (Pls.' Mot. to Strike at 1.) Moreover, particularly because the NHL received a 1,000 word enlargement, Plaintiffs contend that Exhibits A and D consist of a unilaterally-granted, further extension of the word limit.

The Court has considered Exhibits A and D in support of Defendant's motion. Rule 7.1(f) appears to address substantive content, as opposed to material contained in exhibits. The Court views Exhibits A and D to be lists, not substantive content or legal argument. Accordingly, the Court finds no violation of the word limitations. Plaintiffs' motion is therefore denied.

THEREFORE, IT IS HEREBY ORDERED THAT:

1. Defendant's Motion to Compel the Production of Documents from the Boston University CTE Center [Doc. No. 666] is **DENIED in part** and **GRANTED in part**; and
2. Plaintiffs' Motion to Strike Defendant's Exhibits A & D Filed in Support of its Motion to Compel Production of Documents from the Boston University CTE Center [Doc. No. 696] is **DENIED**.

Dated: April 26, 2017

s/Susan Richard Nelson
SUSAN RICHARD NELSON
United States District Court Judge